2008 South Bay Action Plan Workplan, and Contingency Plan

2007 Activity Update

Reporting Period:

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Prepared By:

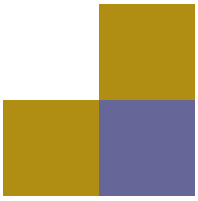
City of San Jose

Environmental Services

San Jose/Santa Clara Water Pollution Control Plant

Administered by Environmental Services, City of San Jose

Tributary Agencies: Cities of San Jose, Santa Clara and Milpitas • Cupertino Sanitary District • West Valley Sanitation District – Including Campbell, Los Gatos, Monte Sereno and Saratoga • County Sanitation Districts 2-3 • Sunol and Burbank Sanitary Districts



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AREA TRIBUTARY TO THE SAN JOSE / SANTA CLARA WATER POLLUTION CONTROL PLANT

NPDES PERMIT CA0037842

The City of San José manages the San José/Santa Clara Water Pollution Control Plant (Plant) for the Cities of San José, Santa Clara, Milpitas, Cupertino Sanitation Districts 2-3, Sunol and Burbank Sanitary Districts and West Valley Sanitation District (Campbell, Lost Gatos, Monte Sereno, and Saratoga) as shown above. The Plant is located at the southern end of one of the most important estuaries in the United States and receives discharge from over 1.4 million residents and more than 16,000 commercial and industrial facilities, including the leading companies of Silicon Valley.

Treatment Process: The wastewater treatment process consists of screening and grit removal, primary sedimentation, secondary (biological nutrient removal) treatment, secondary clarification, filtration, disinfection, and dechlorination.

Abbreviations and Units of Measure

Action Plan	Revised South Bay Action Plan
ADWEF	Average Dry Weather Effluent Flow
BACWA	Bay Area Clean Water Agency
BAPPG	Bay Area Pollution Prevention Group
BASMAA	Bay Area Stormwater Management Agencies Association
Bay	San Francisco Bay
BMP	Best Management Practice
CBS	Clean Bay Strategy
CEP	Clean Estuary Partnership
City	City of San José
EE	Environmental Engineering
ESD	Environmental Services Department
FAS	Flow Audit Study
FY	Fiscal Year
GWI	Groundwater Infiltration
Industrial	Industrial Water Recycling and Reuse
IPM	Integrated Pest Management
JPA	Joint Powers Authority
IU	Industrial User
IWRP	Integrated Water Resources Plan
NPDES	National Pollutant Discharge Elimination System
P2	Pollution Prevention
Plant	San José/Santa Clara Water Pollution Control Plant
P2 Report	Pollution Prevention Report
POTW	Publicly Owned Treatment Works
RMP	Regional Monitoring Program
SBWR	South Bay Water Recycling
SOP	Standard Operating Procedure
South Bay	San Francisco Bay, South of Dumbarton Bridge
SSO	Site Specific Objective
State Board	California State Water Resources Control Board
TMDL	Total Maximum Daily Load
Tributary Agencies	Cities and Agencies Tributary to the Plant: San José; Santa Clara; Milpitas; Cupertino Sanitary District; West Valley Sanitary District – Campbell, Los Gatos, Monte Sereno, and Saratoga; County Sanitation Districts 2 and 3, and Sunol and Burbank Sanitary Districts
ULFT	Ultra-Low Flush Toilet
Urban Runoff Program	Santa Clara Valley Urban Runoff Pollution Prevention Program
U.S. EPA	United States Environmental Protection Agency
Regional Water Board	California Regional Water Quality Control Board, San Francisco Bay Region
Water District	Santa Clara Valley Water District

WEP	Water Efficiency Program
WET	Water Efficient Technologies
WMI	Santa Clara Basin Watershed Management Initiative

UNITS OF MEASURE

AF	Acre Feet 1 AF=325,851 gallons
ccf	hundred cubic feet
gpd	gallons per day
LF	linear feet
mgd	million gallons per day
ppb	parts per billion
ppd	pounds per day (lbs/day)
ppt	parts per trillion

SOUTH BAY ACTION PLAN CHRONOLOGY TABLES

Flow reduction and water conservation programs have been part of the City's environmental programs since the mid 1980s. In the 1990s marsh mitigation became a priority for the Plant. The following tables provide a historical summary of events and activities that the City has led. Pollution prevention is not included in these tables. Please refer to the annual Pollution Prevention Report for information on that topic.

SOUTH BAY ACTION PLAN CHRONOLOGY	
Date	**Activity**
1986	In May, City Council adopted Flow Reduction Strategy and directed City's Office of Environmental Management (now ESD) to develop a 10-year water conservation program. Between 1986 and 1990, these efforts result in 4 mgd flow reduction.
1990	• WQ90-5 ordered Plant discharge limited to 120 mgd or level that will not negatively impact salt marsh. • City completed preliminary feasibility analysis of potential nonpotable and potable water reclamation in northern Santa Clara County. • Agreement with Santa Clara Valley Water District to jointly fund planning and feasibility studies related to water reclamation.
1991	• Began outreach program on ULFTs including a workshop for the local plumbing and building industry. • Action Plan approved by Regional Water Board in lieu of a flow cap. The Action Plan is founded on three elements: water recycling, water conservation, and wetland mitigation.
1992	• Distributed the Notice of Preparation (NOP) for EIR for water recycling program. Public meeting held on February 19, 1992. • Pilot Residential Water Audit completed and provided brochures on water saving practices to participants. • City supplemented State law requiring ULFTs in new construction by requiring ULFTs in remodels that require a plumbing permit. • Cooperative agreement with Santa Clara Valley Water District on pilot ULFT rebate program. • Began pilot rebate program for ULFTs in cooperation with San Jose Water Company with a goal of 20,000 retrofits. Water Conservation components were: ULFT rebate program, ULFT voucher program, Community

SOUTH BAY ACTION PLAN CHRONOLOGY	
Date	**Activity**
	partnership program, ULFT retrofit for schools and other public institutions, and a Financial Incentives Program • Began distribution of New Construction Guidelines for Water Conservation. • EIR certified for Recycled water system
1994	City completed a two-year feasibility study for Countywide distribution of recycled water. Between 1994 and 1997: design and award of Phase I pipeline segments.
1995	• Council approved $140 million for design, engineering and construction of SBWR Phase 1 system. • SBWR groundbreaking
1996	• Average dry weather effluent flow at 132 mgd despite the City's efforts to implement the Action Plan. • Regional Water Board directs City to assess salt marsh conversion near the Plant outfall in the spring of 1997 and to propose a Revised Action Plan by June 1997.
1997	• Submitted revised South Bay Action Plan proposing alternative flow reduction project. Stakeholder workshops held in December 1996 and January 1997. The proposed projects are: Indoor water conservation, expanded water recycling, industrial water recycling/reuse, inflow/infiltration reduction, environmental enhancement pilots • The revised Action Plan is incorporated into the June 1998 NPDES permit. • SBWR system operational
1998	• Design, site selection, and data gathering for stream flow augmentation pilot began. • Began the Slow the Flow campaign in cooperation with the Silicon Valley Manufacturing Group. • Council adopts early implementation of South Bay Action Plan elements from the Tier I Contingency plan to further flow reduction. • Flow Audit Protocol completed for industrial dischargers.
1999	• SBWR Phase 1 completed.
2000	• Completed final monitoring report for Coyote Creek stream flow augmentation project. Project not implemented at the time due to increase costs that made the project cost prohibitive.

SOUTH BAY ACTION PLAN CHRONOLOGY	
Date	**Activity**
	• SBWR Phase2 expansion began. Included Silver Creek pipeline extension, two reservoirs and other system reliability projects.
2003	• New Plant NPDES permit requires annual updates to the Action Plan •
2004	• SBWR program management moved to Muni Water.
2005	• Joint project with Water District on the 7-mile SBWR southern extension servicing Metcalf Energy Center completed in February 2005. • In April, began construction of the Plant's wet weather reliability project. Increases the Plant's sustainable peak wet weather flow from 271 mgd to 300 mgd and short-duration flows of up to 400 mgd for 2 hours.
2006	• Celebrated the 50th anniversary of the San Jose/Santa Clara Water Pollution Control Plant by hosting a community open house with tours and information on the Plan, conservation, and water recycling. • Recycled Water Collaborative formed as a result of the Water District and City study session held in September. • ESD Environmental Management System began development. Initial focus on Municipal Water and the Plant.
2007	• SBWR distributed nearly 15 mgd (ADWEF) during the dry season and more than 10,000 acre-feet of recycled water to over 500 customers throughout the year. • The San Jose City Council adopts the "Green Vision" establishing a goal that 100% of wastewater is recycled or beneficially reused by 2022.

WETLAND MITIGATION AND RESTORATION CHRONOLOGY	
Date	**Activity**
1988-90	13 petitions filed with State Board alleging inadequate protection of endangered species/habitat by Regional Board.
1990	WQ 90-5: • State Board asserted that Plant discharge contributed to conversion of salt marsh to either fresh or brackish marsh, thereby threatening the habitat of salt marsh harvest mouse and California clapper rail, listed on the federal endangered species list. • WQ90-5 required that past conversion must be mitigated for: "creation and restoration of 380 acres of salt marsh., • Also ordered that flows from the Plant be limited as necessary to halt further loss and degradation of endangered species habitat.
1993	City set aside $5.75 million reserve for wetlands mitigation Order 93-117 (Plant permit) includes wetlands mitigation requirements: • Acquire or make funds available to acquire 380 acres of land that is considered suitable for salt marsh restoration by June 30, 1994 • Establish a salt marsh bank
1994	Participated in unsuccessful effort to purchase Bair Island due to unwilling seller.
1996	Regional Board resolution 96-137 accepted the salt marsh mitigation proposal for Moseley and Baumberg Tract to satisfy wetland mitigation component of WQ90-5. State Board accepted with memorandum dated October 13, 1996. • 47 acres credit for Moseley (staff report dated August 25, 1995) • Cost sharing agreement for purchase and restoration of Baumberg tract resulted in 343 acres of credit (resulting in 10 acres of bank).
1998/1999	Order 98-052 (Plant permit) requires a plan for mitigation of wetland losses not previously covered, resulting in the City's contribution of $720,000 to the Bair Island purchase. Since then no additional conversion was found.
2004	Since the City had been unable to restore the Moseley Tract, the 2003 permit required either restoration or an alternate mitigation agreement. In December, the City executed an agreement with the agencies and provided $650,000 to the Peninsula Open Space Trust to assist in Bair Island restoration. As a result of this agreement, the City is no longer required to restore the Moseley Tract and has met all wetland mitigation requirements.

WETLAND MITIGATION AND RESTORATION CHRONOLOGY	
Date	**Activity**
2005	• Purchased salt pond A18 from Cargill. Began Plant land use master planning effort including A18. • Initial release of water from A18 on February 17 and continuous discharge operation on May 10.
2006	• Ongoing planning effort for the Plant lands and A18. City voluntarily performed addition monitoring to gain a better understanding of pond dynamics. Began a collaborative effort with U.S. Geological Survey (USGS) in Menlo Park, CA and increased coordination with the Regional Water Board and U.S. Fish and Wildlife Service who is managing adjacent ponds A16 and A17. • City contracted with H.T. Harvey and Associates to develop an Opportunities and Constraints report for future uses of A18 as part of the overall Master Planning process for the Plant.
2007	• Plant Master Planning process continues.

SOUTH BAY ACTION PLAN BACKGROUND

On October 4, 1990, the State Water Resources Control Board (State Water Board) adopted Order WQ 90-5, which directed the Regional Water Board to limit flows from the Plant to 120 mgd Average Dry Weather Effluent Flow or to flows that would not further impact rare and endangered species habitat. On March 6, 1991, the City submitted the first "Action Plan" as fulfillment of the State Water Board order to limit flows. In Resolution 91-152, the Regional Water Board accepted a revised three-part Action Plan from the City that included water conservation, water recycling and salt marsh mitigation. The City maintains programmatic efforts in all of these areas and uses adaptive management to change the level and type of activity to reflect new data and limited resources.

Water Conservation

The City partners with the Water District to promote residential and commercial water conservation by providing financial incentives and information about efficient fixtures and water wise practices. Industrial pollution prevention efforts included the development of a Flow Audit Study for large dischargers. The audit protocol is a tool for industrial dischargers to use to help identify cost-effective flow reduction measures.

Water Recycling

South Bay Water Recycling was built to recycle the high quality effluent from the Plant for use in irrigation and industrial practices. It began operation in 1997 and had an adjusted flow for calendar year 2007 of over 3.2 billion gallons (3285.7 million gallons), or 10,083 AF.

Salt Marsh Mitigation

For over a decade, the City worked to resolve historic salt marsh mitigation requirements by purchasing or funding the restoration of salt marsh in the San Francisco Bay. In 2004, the City met all salt marsh mitigation required in the Water Boards' orders and continues to hold mitigation credits. The City purchased former salt pond A18 to be utilized for future Plant needs and a long-term master planning effort for the Plant is underway which includes assessing future uses for A18.

Since 1994, the City has managed its pollution prevention and water quality programs using the guidelines established in the Clean Bay Strategy (CBS). The policies and principles of watershed management from the City's perspective are:

- Holistic approach to environmental restoration.
- Regulatory certainty for the City and industrial dischargers.
- Sound science and data collection as a basis for adaptive management decisions.
- Environmental equity.

- Stakeholder involvement and education.
- Cost-effective environmental protection.

The following South Bay Action Plan workplan, contingency plan and activity report were developed using these guiding principles.

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
E.11.a. Water Efficiency	Water Efficiency Program (WEP)	List of Program Activities for FY 2007/2008 ➢ Continue cost sharing agreement with Water District to conduct flow reduction activities. Programs include high-efficiency toilet rebates, h-axis washing machine rebates, commercial programs such as cooling tower rebates, toilet duel flushometer handler urinal and pre-rinse spray valve retrofits. ➢ Continue to implement Water Efficient Technologies (WET) financial incentive program for commercial and institutional facilities.	• Flow reduction through countywide programs that provide incentives to purchase or retrofit water-conserving fixtures. • Work with commercial facilities such as office buildings, restaurants, and grocery stores as well as institutions such as hospitals and schools to increase usage of WET incentives.	• 0.0.25 mgd flow reduction for FY 2007/2008 • Customer satisfaction with programs and fixtures	WEP will continue to focus on the most cost-effective commercial and residential programs administered by the Water District. The current agreement with the Water District provides for significantly reduced costs per gallon saved for grant funded programs. This may allow greater participation by the City.

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
E.11.a. Water Efficiency	Industrial Recycling and Reuse	➢ Technical information outreach ➢ Water Efficient Technologies (WET) financial incentive program for industrial dischargers.	• One Industrial User (IU) Academy • One IU Newsletters • One Case Study of an industrial water reduction project • Monitor active WET projects		
E.11.a.	South Bay Water Recycling	➢ Connect new commercial customers in the vicinity of existing pipeline ➢ Extend pipeline to new developments in north San José ➢ Convert cooling towers from potable to nonpotable water (City of San José – Civic Center, Equinix, others) ➢ Central Park Extension in Santa	• Complete design and initiate construction of retrofits in Milpitas (Parks and schools); San Jose (Modern Ice); Santa Clara (Equinix 100 AFY); City of San José Civic Center (500 AFY)	• 100-200 AFY (2009/2010) • 1000-2000 AFY (2010/2011) • 500-1000 AFY (2009)	2008 Review of Wastewater Treatment Plant Connection Fees including an evaluation of an increase to fund SBWR pipeline extensions.

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
		Clara SC6 – construction planned for summer 2008 ➢ Continue Reliability improvements Project Developer Funded Irrigation Extensions Planned in San José: Crescent Park (5,280 ft. 8") North Point (1,320 ft 8") Riverview (5,280 ft 8")	• Obtain funding for pipeline extension to north San Jose • Convert first three cooling tower customers (San Jose)		
E.11.a.	South Bay Water Recycling	List of Outreach/Marketing ➢ Quarterly Site Supervisor Training to new and existing customers ➢ Sponsor and attend community events, answer questions regarding SBWR pipeline, distribute construction update information to affected businesses and residents.	• Provide quarterly Site Supervisor training; inaugurate recycled water use at Guadalupe Community Gardens and provide customized "gardener training." • Continue to participate with	• Complete deliverables as scheduled.	Progress report and program history of SBWR and customer bulletin postponed due to employee turnover. An additional WateReuse workshop on cooling tower and industrial recycled

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
		➢ Maintain and enhance SBWR website to provide information and promote the benefits of recycled water. ➢ Support the City's Youth Watershed Education program that includes specific messages about where recycled water comes from and how it is used in the local community. ➢ Support government and professional associations that share information and promote regional water recycling in the San Francisco Bay Area. ➢ Produce DPH Approved Recycled Water Design Guidelines for Cooling Towers ➢ Produce training module for industrial use of recycled water	SBWR booth at community events and update website. • Continue supporting YWET activities in local schools. • Remain active on BACWA Water Recycling Committee and continue to participate in WaterReuse Association local, state and national activities.		water use was held in San Jose June 15, 2007 to promote the use of recycled water. An informational packet was produced and distributed at this event.

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
		in cooling towers ➢ Update training materials: including information for site supervisors about recycled water in cooling towers and at dual plumbed facilities			
E.13.	Salt Marsh Vegetative Assessments	Document changes in marsh habitat to determine the status of endangered species habitat in the areas that are or reasonably could be influenced by Plant discharge. (Study area)	Report will be posted on ESD website documenting changes in tidal marsh vegetative habitat in 2007.	Complete report as scheduled.	Required in 2005 and 2007

2008 SOUTH BAY ACTION PLAN WORKPLAN Activities based on calendar year unless otherwise noted.					
Provision	**Program**	**Activities**	**Deliverables**	**Projected Flow Reduction/ Measure of Effectiveness**	**Comments**
E.14.	Clapper Rail and Salt Marsh Harvest Mouse Surveys	➢ Final report submitted by 02/28/07. ➢ Submitted complete workplan on schedule to the Resource Agencies and Regional Water Board.	Final report was posted on ESD website documenting the methodology and results of the Rail and Mouse Survey.	Complete report on schedule.	H.T. Harvey and Associates performed the survey.
Not a permit requirement	Plant Land Use Master Planning Effort and A18 planning	➢ Submitted annual report on the long-term operations of A18 to the Regional Water Board in February. ➢ Work with agencies and stakeholders as part of the Plant Master Planning process.	Separate annual report.	• A Plant Master Plan within 3 years • Successful stakeholder participation.	Salt Pond A-18 acquired in October 2005 is under a separate WDR. Highlights of planning efforts will be included in the SBAP until completed.

SOUTH BAY ACTION PLAN CONTINGENCY PLAN

The NPDES permit provision E.11.b. requires the submittal of a contingency plan that describes the planning effort to identify water recycling and conservation efforts over and above current levels should Plant effluent flows increase significantly. The process to initiate additional flow reduction activities includes:

- Update the flow projection annually to establish "best projection" of effluent flows.

- Begin analysis of potential additional programs if average dry-weather effluent flows (ADWEF) reach a planning trigger of 115 mgd, which was determined using a safety factor that accounts for time to implement activities, projected growth, and City policy.

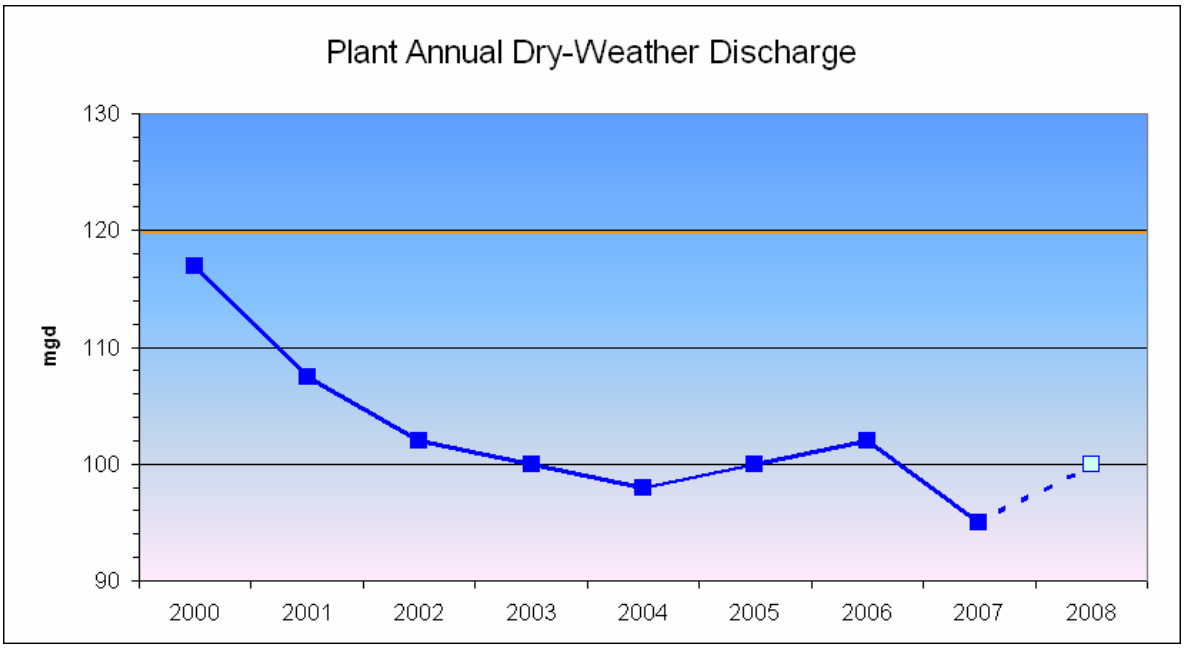
- Such analysis would include:
  1. Identifying and developing characteristics of potential future flow reduction programs/projects, including program cost, flow reduction projection, implementation schedule, and benefit characteristics as needed for benefit cost analysis.
  2. Prioritizing potential programs/projects using benefit cost analysis and policy decisions on priorities for programs at the time.
  3. Determining implementation period required achieving the next significant increment of flow reduction.

- The analysis would be submitted to the Regional Water Board as a more detailed contingency Action Plan in the year that follows ADWEF reaching the planning trigger.

- If flows continue to rise, priority projects will be implemented.

EFFECTIVENESS EVALUATIONS

Monitoring fresh water flows and the changes in marsh habitat in the South Bay serves as a primary effectiveness measure for the South Bay Action Plan activities. Below is a discussion of Plant dry-weather effluent trends, the Tidal Marsh Habitat Assessment and Avian Botulism reports that are used to evaluate the health of the local ecosystem.



Data Sources: SJ/SC WPCP flows, the California Department of Employment Development, the California Department of Finance, Demographic Research Unit on jobs and residential population figures.

PLANT DISCHARGE

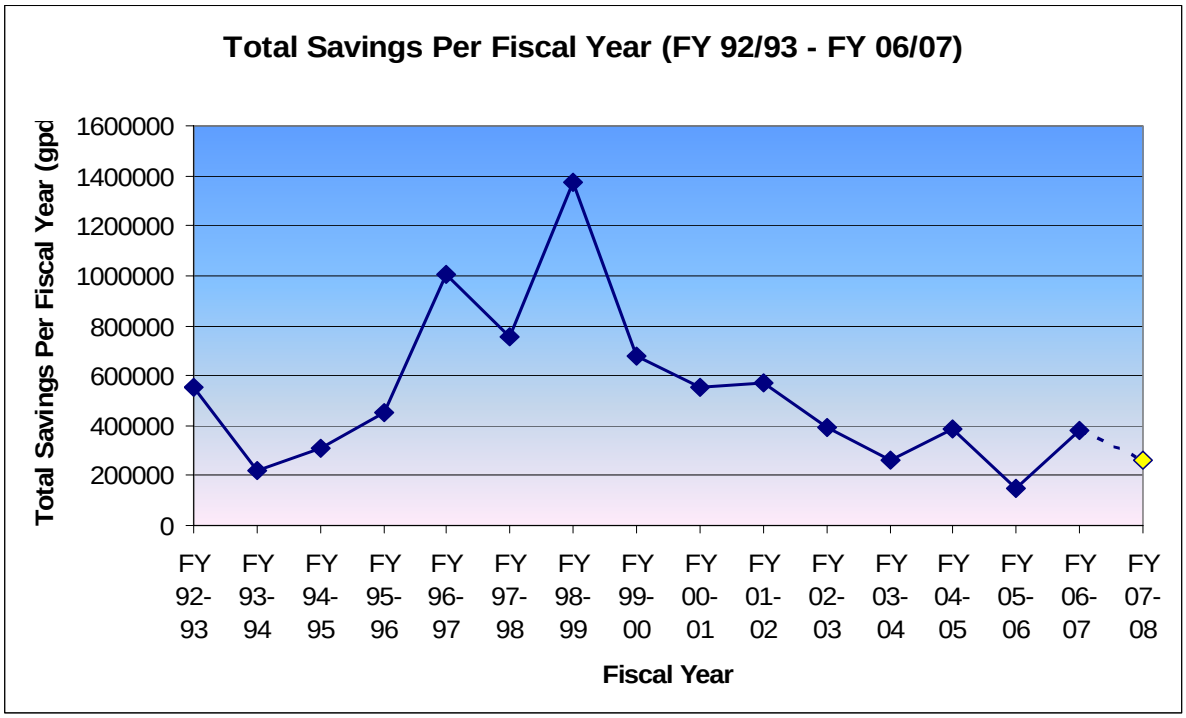
The Plant's dry weather effluent flow was the lowest recorded in 30 years, and well below the 120 million gallons per day trigger for the 2007 season with the average of three lowest consecutive months (July-September) of 95 mgd. Plant dry-weather discharge flows (May – October) experienced a slight increase in 2005 and 2006 due primarily to above normal rainfall after a steady decrease since 2000. The drop in effluent since 2000 (19%) has been due primarily to three factors:

- Reduced per capita water use from conservation has kept indoor water use flat from a growing residential sector;
- The economic slowdown and the corresponding loss of over 91,300 jobs (-13%) in the Plant service area; and
- Recycled water diversions doubling from 7 mgd to 14 mgd.

The effluent flow trend, when normalized for rainfall, is projected to rise slowly from 100 mgd at an annualized rate of 1% or less. The most recent update of the City's flow model indicates that the Plant's dry-weather discharge will stay below 120 mgd through the next NPDES permit period.

Water Conservation

The following graph illustrates the cumulative flow savings estimated from water conservation efforts over the past years. Water conservation has helped keep per capita water use from growing as population grows. See Attachment 1 for the draft Water Conservation Plan for the next three years.



2007 SALT MARSH VEGETATIVE ASSESSMENT

The City performed a marsh assessment study in 2007 as part of its long-term monitoring program that began in 1989. This assessment is the first performed since the passive tidal restoration of island ponds A19, A20 and A21 with the breaching of the levees on Coyote Creek in the immediate vicinity of the Artesian Slough confluence with Coyote Creek. This restoration project, initiated in May 2006, resulted in increased tidal prism in the Main Study Area, which could result in vegetation shifts unrelated to the Plant discharge.

Prior to this year, there was a net conversion from salt to brackish marsh since 1989, with decreases in this conversion between 1994 and 1995 and again in 2002. However, for the first time this year, we saw a large-scale conversion of brackish marsh to salt marsh (221.5 acres) across the entire Main Study Area. Similarly, in the Reference Area, there was a net conversion of brackish to salt marsh of 7.1 acres in 2007.

Marsh conversion in both the Main Study Area and the Reference Area appear to be related to a combination of factors in 2007. This year there was a major dieback of alkali bulrush. The combination of very low winter/spring rains, low local tributary freshwater flows, increased tidal prism from the Island Pond breaching, low mean sea level, decreased soil moisture, and low temperatures in January are all factors affecting germination and plant establishment may have contributed to the observed dieback. In the more saline and transition marshes, pickleweed flourished in place of alkali bulrush. In the fresher/upstream areas of the brackish marshes, spearscale and pepperweed dominated the marsh conversion. The large-scale vegetation shifts and conversions between marsh types in the Main Study Area between 2005 and 2007, and especially the large conversion from brackish to salt marsh in 2007 (during a period when Plant discharges have remained relatively constant), indicate that interannual variations in rainfall, surface water salinities, temperature, mean sea level, and changes in tidal prism play a large role in species distribution in the South Bay. The 2007 report is available on the Environmental Services Department's website at http://www.sanjoseca.gov/esd/marsh-studies.asp.

SYNOPTIC SURVEYS

In 1990, the State Water Board directed the Regional Water Board to limit flows from the Plant to 120 mgd or to flows that would not further impact rare and endangered species habitat. Two endangered species in the South Bay are the California clapper rail and the salt marsh harvest mouse (SMHM). As required in the permit, the City sent the proposed survey workplan to the Board, the CDFG, and USFWS Refuge and Sacramento offices, on October 11, 2005. The City worked closely with these agencies to ensure that the surveys conducted met the most recent USFWS protocols.

There were 154 individual California clapper rail station surveys conducted at five transect locations during the breeding season in February - May 2006. The data provided an accurate assessment of the relative distribution of California clapper rail in the South Bay.

The City also conducted salt marsh harvest mouse surveys at three trapping locations representing upland habitat types in the Study Area. Mice were found at all locations. This study documented a greater density of salt marsh harvest mouse in brackish marsh than has ever been reported in the South Bay. This indicates that brackish marsh may have more habitat value for the salt marsh harvest mouse than previously thought.

The results of both surveys are available on the Environmental Services Department's website at http://www.sanjoseca.gov/esd/marsh-studies.asp and a copy of the report is enclosed as an Attachment.

AVIAN BOTULISM

The San Francisco Bay Bird Observatory (SFBBO) performed monitoring for avian botulism outbreaks from May through October 2007 in Coyote Creek, Artesian Slough and Alviso Slough. City staff maintained approximately weekly correspondence with SFBBO to ensure early awareness of potential botulism outbreaks. Concurrently, City staff conducted additional monitoring in the Residual Sludge Management (RSM) area of the Plant. Coordination amongst City Staff ensured that if an outbreak had occurred, it

would have been identified promptly and appropriate mitigation actions would have been implemented in an expeditious manner. No outbreaks of avian botulism were detected by either of these monitoring efforts in 2007. Regular monitoring efforts resulted in the collection and rehabilitation of sick or injured birds, which may lessen the chances of an outbreak occurrence.

PLANNING AND RELIABILITY PROJECTS

PLANT MASTER PLANNING EFFORT

The Plant Master Planning effort, lead by an inter-departmental steering committee that includes representation from the Plant's tributary agencies and various City departments, enters its third year of strategic planning to identify future sustainable operational needs, define land uses for the historic bufferlands, and look for opportunities to incorporate pond A-18 with Plant operations. H.T. Harvey and Associates completed the opportunities and constraints analysis for potential uses of A18 and the buffer lands for the Master Planning Team to consider. In the summer of 2007, a Request for Proposal was released for consultant services to complete a 30-year Master Plan for the Plant, including bufferlands and A-18. In November, the San Jose City Council approved the Plant Master Plan contract with Carollo Engineers. The Master Plan is expected to be completed in three years at a total cost of $5 to $6 million. Outreach to stakeholders, including regulatory agencies, will begin in 2008.

PLANT RELIABILITY IMPROVEMENT PROJECTS

The Plant's Reliability Improvements Project is the largest addition to the facility in 20 years. The project will reach substantial completion in the first half of 2008. The project includes the creation of a second, parallel headworks, a new raw sewage pump station, a supplemental filter influent pump station, and an 18 million gallon emergency overflow storage basin. The project allows the Plant to handle short-duration flows up to 400 mgd and will allow the Plant more time to respond and correct critical failures before any environmental impacts can occur. The electronic operations and maintenance manuals are nearing completion and are being used for the start-up and commissioning training for the new headworks facilities. In addition, the Plant has launched an asset management program and is pursuing capital projects to rehabilitate digesters and the electrical system.

SUSTAINABLE LEADERSHIP INITIATIVES

Watershed Management Initiative

The Watershed Management Initiative (WMI) continues to work on implementing the Watershed Action Plan through the actions of its subgroups, and through collaboration with other water policy stakeholder groups, like the Water Resources Protection

Collaborative. City Staff participates in most of the workgroups and the Core Group of the WMI and continues to support the WMI through the contribution of staff time for WMI administrative positions. In 2007, WMI held a group retreat where WMI participants brainstormed future priorities for the WMI. As a result of this session, the following four priorities were identified: trash, erosive forces/riparian setback, stream goals, and product stewardship.

The WMI is also in the process of launching a new POTW subgroup to foster regional collaboration among the three South Bay wastewater treatment plants on issues of interest such as biosolids handling, recycled water and fats, oils and grease.

Environmental Management System

In December 2005, the Director of Environmental Services initiated work on the development of an Environmental Management System (EMS) for ESD. Public agencies, such as the City, benefit from EMS implementation by increasing operational efficiencies, improving environmental performance, and reducing costs.

ESD has developed an effective EMS policy in conformance with ISO 14001:2004. The Municipal Water Resources Division will be ISO 14001:2004 registered in 2008. The Plant is in the first stages of EMS implementation with a goal of registration in the next 12 – 18 months. The EMS process will assist both the Municipal Water Resources Division and the Plant in systematically identifying its impacts and establishing a process that holds them accountable for accomplishing goals that reduce those impacts, and delineating staff roles and responsibilities in that regard. Improved compliance with regulatory parameters and significantly improved operational control have also been among the early successes of the EMS.

The EMS is on ESD's internet site at http://www.sanjoseca.gov/esd/ems.asp.

Urban Environmental Accords

The Urban Environmental Accords were developed by cities as part of the United Nations World Environment Day (June 2005) to provide a roadmap for cities as they work towards sustainability. More than 100 cities worldwide are signatories. The Accords detail twenty-one Actions that cities can implement to become more environmentally sustainable. The number of Actions a city achieves determines its sustainability ranking; local (achieving 8 to12 of the Actions), national (achieving 13 to 15 of the Actions), regional (achieving 16 to 18 of the Actions), or global sustainable city status (achieving 19 to 21 of the Actions).

On October 30, 2007, the City Council approved a goal and five year implementation plan for San Jose to achieve Global Sustainable City status by implementing 19 to 21 Actions that make up the Urban Environmental Accords covering energy/climate change, waste reduction and pollution prevention, urban design, urban nature, transportation, environmental health and water. Based on staff analysis, a majority of the Actions are

currently being implemented in existing City programs or will be part of anticipated initiatives.

San Jose's Green Vision

The San Jose Green Vision was adopted by City Council on October 30, 2007. The Vision contains 10 long-term goals which layout the roadmap of how the City will meet its commitment to the Climate Protection Agreement and the Urban Environmental Accords. San Jose's Green Vision goals are to:

- Create 25,000 Clean Tech jobs as the World Center of Clean Tech Innovation
- Reduce per capita energy use by 50 percent
- Receive 100 percent of our electrical power from clean renewable sources
- Build or retrofit 50 million square feet of green buildings
- Divert 100 percent of the waste from our landfill and convert waste to energy
- Recycle or beneficially reuse 100 percent of our wastewater (100 million gallons per day)
- Adopt a General Plan with measurable standards for sustainable development
- Ensure that 100 percent of public fleet vehicles run on alternative fuels
- Plant 100,000 new trees and replace 100 percent of our streetlights with smart, zero emission lighting
- Create 100 miles of interconnected trails

Promoting the Green Vision goals will provide opportunities to promote wastewater pollution prevention and water recycling in a broader context of sustainability.

2006 SOUTH BAY ACTION PLAN ACTIVITIES UPDATE

WATER CONSERVATION AND RECYCLING PROGRAMS PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent flow reduction.	
Accomplishments	**Future Activities** **2008**
FY 2006-2007 ➢ Achieved approximately 0.380 mgd flow reduction, which is significantly greater than the 2006-2007 goal of 0.150 mgd. Provided $480,000 funding to the Santa Clara Valley Water District. The Water District reimbursed the City for $5,500 in WET program costs. The HET rebate programs and the commercial pre-rinse sprayer valve replacement program far exceeded estimated programmatic goals. ➢ Continued cost sharing agreement with Santa Clara Valley Water District. Flow reduction programs included Water Efficient Technologies program for commercial and institutional entities, commercial and residential high-efficiency toilet retrofit programs, commercial and residential h-axis washing machine rebates, water softener replacement program, waterwise housecalls program, commercial water audits, and pre-rinse sprayer retrofits for food service establishments. High Efficiency Toilet (HETs) rebates are available in the residential sector and gaining in popularity. HET retrofits continue to be successful in the	FY 2007-2008 • Continue cost sharing agreement with the Water District to conduct flow reduction activities for the Plant service area. For the residential sector, provide high-efficiency toilet (HET) rebates, full-service HET programs, and h-axis washing machine rebates along with water surveys and cooling tower rebates, pre-rinse sprayer retrofits, urinal retrofits, and a dual-flush flushometer pilot program. • Continue to implement Water Efficient Technologies (WET) financial incentive program for commercial and institutional businesses. • Flow reduction goal: 0.260 mgd • Complete WET rebate project for at least 2 more applicants and initiate the application process for 4 more additional applicants. • Continue to provide technical information and outreach on

WATER CONSERVATION AND RECYCLING PROGRAMS PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent flow reduction.	
Accomplishments	**Future Activities** **2008**
commercial sector because a full-service program is being offered. A wage dispute halted the pre-rinse sprayer retrofit program for restaurants that was recommenced during this FY. H-axis washing machine rebates have continued their popularity in both commercial and residential sectors. ➢ Provided Water Efficient Technologies (WET) financial incentives to encourage commercial and institutional wastewater flow reduction and water conservation. Two WET projects for the retrofit of urinals to zero water consumption urinals were completed with total rebates of $11,100 before District reimbursement, which resulted in a water use reduction of approximately 5,700 gpd. ➢ Provided technical information and outreach on flow reduction technologies to commercial and institutional customers	flow reduction technologies to commercial and institutional customers.
Industrial Recycling and Reuse – Water Efficient Technologies	
➢ Provided technical information and outreach on flow reduction technologies. ➢ Provided Water Efficient Technologies (WET) financial incentives	• Continue to pursue further case studies for completed projects. • Complete at least one Industrial User Academy and one

WATER CONSERVATION AND RECYCLING PROGRAMS PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent flow reduction.	
Accomplishments	**Future Activities** **2008**
information at the Industrial User Academy to encourage industrial water conservation and reuse. ➢ Completed 1 flow reduction project through the WET program in 2007. Total flow reduction for the project totaled 5,533 gpd with a $4,483 rebate awarded.	Industrial User newsletters in 2008 that will include information on WET incentives.

SOUTH BAY WATER RECYCLING PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent and effluent flow reduction.	
Accomplishments	**Future Activities** **2008**
➢ Current dry weather maximum reuse is approximately 14.4 mgd. ➢ Plans and specifications for Guadalupe Community Gardens completed and project bid; construction anticipated in 2008. ➢ Completed construction of Zone 3 Reservoir consisting of two 2.75 million gallon tanks (5.5 million gallon total) and 5,500 linear feet of 20-inch mains. ➢ Reliability improvements continued ➢ Worked with San Jose City Council and Santa Clara Valley Water District to discuss further partnership opportunities given the current water supply outlook.	• Continue reliability and improvements project • Developer funded irrigation extensions planned in San Jose: Crescent Park (5,280 ft. 8") North Point (1,320 ft. 8") Riverview (5,280 ft. 8") • Connect new commercial customers in the vicinity of existing pipeline • Extend pipeline to new developments in north San Jose • Convert cooling towers from potable to nonpotable water (City of San Jose – Civic Center, Equinix, and others) • Construction of Santa Clara Central Park Extension in summer of 2008 • Water District Reimbursement Agreement will be

SOUTH BAY WATER RECYCLING PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent and effluent flow reduction.	
Accomplishments	**Future Activities** **2008**
	renewed in 2008.
Outreach/Marketing	
➢ Water Quality data updated every two months on the website http://www.sanjoseca.gov/sbwr/water-quality.htm ➢ Site Supervisor Training. ➢ Sponsor and attend community events, answer questions regarding SBWR pipeline, distribute construction update information to affected businesses and residents. ➢ Workshop on cooling tower and industrial recycled water (San Jose) June 2007. ➢ Workshop on recycled water irrigation and groundwater protection (Palo Alto) August 2007	• Quarterly Site Supervisor Training to new and existing customers • Sponsor and attend community events, answer questions regarding SBWR pipeline, distribute construction update information to affected businesses and residents. • Maintain and enhance SBWR website to provide information and promote the benefits of recycled water • Support the City's Youth Watershed Education program that includes specific messages about where recycled water comes from and how it is used in the local community. • Support government and professional associations that share information and promote regional water recycling in the San Francisco Bay Area

SOUTH BAY WATER RECYCLING PERMIT PROVISION: E.11.a. EFFECTIVENESS MEASURES: Influent and effluent flow reduction.	
Accomplishments	**Future Activities** **2008**
➢ Bay Area interagency partnerships for WateReuse workshop (San Francisco) October 2007 ➢ Water reuse utility rate structures and developer fees (San Francisco) December 2007 ➢ SBWR website updated essential forms for connection and inspection of recycled water sites	• Produce DPH Approved Recycled Water Design Guidelines for Cooling Towers • Produce training module for industrial use of recycled water in cooling towers • Update training materials: include information for site supervisors about recycled water in cooling towers and at dual plumbed facilities

SALT MARSH VEGETATIVE ASSESSMENT PERMIT PROVISION: E.13. EFFECTIVENESS MEASURES: Assessment Completed	
Accomplishments	**Future Activities** **2008**
Salt Marsh Vegetative Assessment	
➢ H.T. Harvey completed an assessment for 2007. The report is available on the Environmental Services Department's website at www.sanjoseca.gov/esd/marshplant.htm See pages 19-20 of the ACTION PLAN report for a brief summary. ➢ IKONOS imagery used for the 2007 assessment.	Salt Marsh Vegetative Assessments are required in 2005 and 2007. Requirements under the current NPDES permit have been met.
State and Federal Salt Pond Restoration Project Participation (not required by permit)	
➢ City staff actively participate in the stakeholder forum, subgroups, and workshops. ➢ As part of the A18 monitoring program, City staff continues coordination with the Regional Water Board and USFWS staff to share technical information and ideas for adaptive management of the pond during the summer monitoring season.	Continue to participate in stakeholder activities and provide technical assistance as appropriate.

CALIFORNIA CLAPPER RAIL AND SALT MARSH HARVEST MOUSE SYNOPTIC SURVEYS PERMIT PROVISION: E.13. EFFECTIVENESS MEASURES: Assessment Completed	
Accomplishments	**Future Activities** **2008**
Synoptic Survey	
➢ H.T. Harvey performed the required synoptic surveys in 2006, indicating the presence of the California clapper rail and the salt marsh harvest mouse.	Permit requirement completed. The surveys are available on the Environmental Services Department's website at http://www.sanjoseca.gov/esd/marsh-studies.htm

SANTA CLARA BASIN WATERSHED MANAGEMENT INITIATIVE (WMI) PERMIT PROVISION: E.10. EFFECTIVENESS MEASURES: Continued Participation	
Accomplishments	**Future Activities** **2008**
Core Group and Subgroups	
➢ In 2007, the City accepted the role of WMI co-chair for the WMI Core group. ➢ The WMI and the City of San Jose were among the sponsors for the Santa Clara County Creeks Coalition Watershed Conference on November 17, 2007. Presentations included monitoring and restoration techniques as well as updates on current activities. ➢ The Land Use Subgroup, chaired by San Jose staff, hosted two successful workshops on October 2, 2007 as part of the California American Planning Association Conference to educate planning staff on watershed health issues and site designs for water quality. Planners throughout the state attended the workshop help in San Jose. ➢ WMI participants held a retreat to identified future priorities such as trash, erosive forces/riparian setback, stream goals, and product stewardship. Existing and newly formed workgroups will address each of the priorities. ➢ Launched the POTW coordination forum to foster collaboration among the three South Bay treatment plants. Co-chaired by San Jose staff.	Continue work plan implementation. www.scbwmi.org

AVIAN BOTULISM PERMIT PROVISION: E.2. EFFECTIVENESS MEASURES: Complete Survey	
Accomplishments	**Future Activities** **2008**
Avian Botulism Control Program	
➢ Continued contract with the San Francisco Bay Bird Observatory (SFBBO) to conduct avian botulism surveys of tidal areas in Artesian Slough, Coyote Creek and Alviso Slough under influence of fresh and brackish water from May through October 2007. Surveys conducted approximately weekly. ➢ No outbreak of avian botulism was detected in the South Bay in 2007, though surveys resulted in collection and rehabilitiation of sick and injured birds. Coordinated with SFBBO to stay abreast of any potential outbreaks or signs of potential outbreaks in the South Bay via weekly email or telephone correspondence. ➢ Conducted avian botulism reconnaissance surveys regularly from May 2007 through September 2007 in the Residual Sludge Management (RSM) area of the San Jose/Santa Clara Water Pollution Control Plant (Plant). ➢ Coordinated with RSM supervisor to ensure vigilance for any signs of a botulism outbreak at the Plant. ➢ Annual avian botulism report was submitted to CDFG, USFWS, State Water Board and Regional Water Board on February 1, 2008 per Permit Provision E2.	• Continue avian botulism program that includes internal outreach to appropriate staff. • Continue monitoring for avian botulism outbreaks in the tidal areas of Artesian Slough, Coyote Creek and Alviso Slough from May through October.

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ATTACHMENTS

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ATTACHMENT 1

City of San Jose Memorandum, September 17, 2007
Draft Water Conservation Plan

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T&E AGENDA: 10-01-07
ITEM: 1

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: John Stufflebean

SUBJECT: **CITY WATER CONSERVATION PLAN**

DATE: 09-17-07

Approved

Date 9/24/07

RECOMMENDATION

Accept this progress report for a Water Conservation Plan and direct staff to prepare the final plan for approval in April 2008.

OUTCOME

By April 2008, staff will complete a comprehensive Water Conservation Plan (Plan) with a goal of achieving approximately 30,000 acre feet (9.8 billion gallons annually) of water savings by 2030. These savings will help conserve increasingly scarce water supplies and increase the City's wastewater flow reduction efforts of recent years in support of the San José/Santa Clara Water Pollution Control Plant's (Plant) NPDES permit. The Plan will help maintain San José's economic viability and support achievement of Urban Environmental Accord Action 19 (to conserve water) and Action 20 (to protect drinking water sources).

BACKGROUND

San José makes up approximately 50% of the population of Santa Clara County. By 2030, it is anticipated that San José will comprise 59% of the population. Demand for water is growing statewide at the same time that water supplies are diminishing, the latter due to factors such as curtailment of pumping from the Delta, the potential for multi-year droughts, and anticipated impacts of global warming.

While efforts during the drought of 1987 – 1992 addressed indoor and outdoor conservation, since the mid 1990s the City's water conservation efforts have focused on reducing the volume of wastewater flows to the Plant -- indoor water use -- and have been guided by the South Bay Action Plan of 1998 - 2002.

At this time, the City administers two water conservation programs: the Water Efficient Technologies program to businesses and the Neighborhood Preservation Water Conservation Program associated with enforcement of the Neighborhood Preservation Ordinance. The City financially supports other conservation programs conducted by the Water District, which administers indoor, outdoor, residential and commercial programs county-wide. The City and District cost-share on each other's programs, providing a cost-effective way to conserve water and meet the Plant's NPDES permit requirements.

ANALYSIS

To date, the City has achieved over seven million gallons per day (mgd) or 8,258 acre feet in flow reduction from a variety of programs such as toilet retrofits, commercial programs, and washing machine rebates. Between 1992 and 2006, the Santa Clara Valley Water District (Water District) estimates that the District, cities, and water retailers achieved a combined 40,000 acre feet of savings countywide.

Several events have occurred recently, however, and a new picture of water supply and demand is emerging. Last winter, San José's precipitation was 64% of normal. Many parts of Southern California experienced their driest year on record with Los Angeles at 21% of normal. It may be that the drought that has plagued the southwestern United States for many years is making its way north through California. This summer, water deliveries from the State Water Project and the Central Valley Project (which deliver approximately 50% of the County's water supply) have been curtailed due to impacts to the endangered Delta Smelt. It appears that this may be a factor in Delta water deliveries for many years to come. In response, the District and other Bay Area water agencies have called for both voluntary and mandatory reductions in water use. Also receiving much attention from State and Federal agencies is the potential for what is called "California's Katrina" – failure of Delta levees due to age and maintenance needs coupled with seismic or other activities.

The success of City water efficiency and recycled water programs coupled with the economic downturn earlier this decade reduced flows to the Plant -- and City-conducted flow reduction programs were accordingly reduced as well. Now, however, given the changes described above, it would be prudent for the City to consider investing additional funding and other resources in its water conservation activities. The attached Draft Water Conservation Plan outlines San José's water supply situation as well as a recommended approach to its future water conservation efforts.

Currently, the Water District is the primary agency administering water conservation programs on a countywide basis. The Water District has set a goal to achieve 60,000 acre feet of additional countywide water savings between 2006 and 2030 (of which, 30,000 acre feet of savings is projected for San José). They anticipate achieving this goal through a combination of indoor programs (i.e. toilet retrofit programs, fixture rebates, and education), outdoor programs

(i.e. turf replacement, irrigation programs), and commercial programs (such as the Water Efficient Technologies program initially developed by the City that offers businesses rebates for retrofitting equipment).

Outdoor conservation offers the most savings potential. The City will continue to cost share on Water District programs and, depending upon staff availability, cost effectiveness, and budget, may begin additional direct program implementation within the next three years.

In the meantime, significant water savings may be possible from improvements in San José's Planning/Development process and staff will address this through the General Plan update as well as other opportunities such as revising building design guidelines. Staff will also research the feasibility and savings potential associated with a "Retrofit on Resale" ordinance that would require water conservation retrofits for properties changing hands. This, as well as a pilot "model development" program for new housing developments may be accomplished in conjunction with other cities within the county.

Over the next three years, based on Council approval of a Water Conservation Plan this coming April, staff is proposing to identify program needs to achieve the 30,000 acre feet of conservation, conduct pilots in conjunction with the Water District, participate in Bay Area and statewide conservation initiatives, and make investment proposals for specific water conservation programs needs.

EVALUATION AND FOLLOW UP

By April 2008, staff will complete a comprehensive Water Conservation Plan (Plan) with a goal to achieve approximately 30,000 acre feet (9.8 billion gallons annually) of water savings by 2030. While no performance measures are associated with the further development of the Water Conservation Plan, the plan itself will include performance measures such as million gallons per day of water conserved and cost/mgd, measures of outreach success such as public knowledge of our current water supply situation, and measures that determine progress towards more water conserving development processes. Several of these measures are already being used such as cumulative water savings and cost/mgd, and measures of how knowledgeable City residents are about water issues and how to conserve.

POLICY ALTERNATIVES

Alternative 1: **Continue on current path of minimal City program implementation and cost sharing with the Water District.**
Pros: This constitutes a cost-effective strategy for remaining within the Plant's flow trigger for discharge.

Cons: At this level, it will not be possible to achieve an additional 30,000 acre-feet of water saving by 2030.
Reason for not recommending: The risks faced today to the City's water supply warrant increased effort.

Alternative 2: **Ramp up City conservation efforts with City-administered water conservation programs that augment Water District programs.**
Pros: The City would achieve additional water conservation.
Cons: The conservation achieved may not be done as cost-effectively as it would be through County-wide programs and limited City staff resources would not be able to address Planning/Development conservation opportunities as effectively (something over which the District has limited influence). Given the current volume of wastewater flows, it is difficult to justify increased expenditures and no money is currently budgeted for outdoor conservation measures.
Reason for not recommending: The Water District has not completed its implementation plan for its countywide conservation goals. Any actions we take in terms of additional program development and implementation would not be cost effective and, with current staffing levels, would detract from our ability to pursue conservation strategies in the development arena that the Water District has limited ability to influence.

PUBLIC OUTREACH

Outreach related to development of the Draft Water Conservation Plan has involved the Water District and the two additional water retailers serving customers within San José: Great Oaks Water Company and San José Water Company. City staff met with District and retailer staff prior to development of the Plan's outline and their input is reflected in it.

Staff recognizes that one of the most important elements in implementing a successful water conservation plan is encouraging the public to participate and take steps to protect this resource. ESD participates in a wide variety of activities and regularly promotes water conservation at community events. Staff will expand the City's outreach efforts and will provide water conservation educational programs at local schools.

COORDINATION

This water conservation outline has been coordinated with Planning, Building, and Code Enforcement and the City Attorney's Office.

COST SUMMARY/ IMPLICATIONS

At this time, no costs will be incurred for the preparation of the Water Conservation Plan. Additional costs will be associated with implementation of proposed conservation activities, if approved.

CEQA

Not a project.

JOHN STUFFLEBEAN
Director
Environmental Services Department

Attachments

For questions, please contact Linden Skjeie, Supervising Environmental Services Specialist, Environmental Services, at 408-975-2577, or Mansour Nasser, Deputy Director for Water Resources, Environmental Services at 408-277-4218.

City of San Jose
Water Conservation Plan

1. Introduction and Background

1.1. Purpose of the Water Conservation Plan

The purpose of the Water Conservation Plan is to outline the City's commitment and contribution towards a sustainable water supply for its current and future residents. Due to multiple drivers for water conservation, the City sees a need to establish a goal to conserve 30,000 acre-feet of water by 2030. This three-year plan outlines the steps the City will take in FY07-08 through FY 09-10 towards accomplishing this goal.

1.2. City's Drivers for Water Conservation

From 1997 – 2002 the driver for the City's conservation work has been the goal of reducing the volume of wastewater flows from the San Jose/Santa Clara Water Pollution Control Plant (Plant). Permit requirements for the Plant require limiting summer flows below 120 mgd to protect salt marsh habitat. Past conservation programs were aimed at compliance with this requirement and were outlined in the Revised South Bay Action Plan. Since then, conservation efforts have continued, but there has been no formal conservation plan. However, several things have changed in recent years and currently there are multiple drivers in addition to flow reduction:

- To protect endangered species, the recent restrictions on pumping from the State Water Project and the Federal Central Valley Project (which supply the County with 50% of its water) has reduced water deliveries from the San Francisco Bay Delta (Delta) to the County.
- To address this, as well as last winter's lack of precipitation, a 10% voluntary reduction in water use has been called for by various Bay Area water agencies, including the Santa Clara Valley Water District (Water District)
- Potential mandatory water rationing if this coming winter experiences low precipitation as well.
- City environmental policies: These include the Water Policy Framework, Urban Environmental Accords (Actions 19 and 20), and the Sustainable City Major Strategy and the Greenline/Urban Growth Boundary Major Strategy. Additionally, the Environment and Utility City Service Area includes an objective to maintain a safe, reliable water supply. Other relevant policies include the Economic Development Major Strategy to maximize the City's

economic development potential and the Growth Management Major Strategy to balance urban facility and service demands with City budget

- County-wide water supply management: Conservation is outlined in the Santa Clara Valley Water District's (Water District) Urban Water Management Plan (UWMP) and Integrated Water Resources Plan (IWRP)
- Commitment to the California Urban Water Conservation Council (CUWCC) Memorandum of Understanding (MOU): Since 1995, San Jose's Municipal Water System has been a signatory of the CUWCC. Fulfillment of the CUWCC's Best Management Practice (BMP) measures for urban water conservation is required of all signatories.
- Compliance with other regulations, including review of Water Supply Assessments for new developments over 499 units (SB 610 requirement).
- Economic viability: water conservation and water supply reliability are fundamental requirements for maintaining economic vitality.
- Response to environmental factors: Global climate change is anticipated to negatively affect California's water supplies and infrastructure needs.

1.3. Goal (Water Conservation Targets)

In response to this last dry winter, the Water District and other water agencies such as the San Francisco Public Utilities Commission established a 10% voluntary reduction goal this past summer. Additionally, the Water District has established a long-term and ambitious conservation goal to achieve 60,000 acre-feet of additional savings by 2030. This is beyond the 39,000 acre feet of savings achieved from 1992 – 2005. As 50% of the county, San Jose will play a central role in achieving water conservation goals.

About half of this new savings would come from "passive" conservation such as plumbing code changes. Therefore, 15,000 acre feet of conservation would come from "active" conservation, such as implementation of water conservation Best Management Practices and emerging conservation technologies.

As competition for water increases and supply becomes more uncertain, implementing conservation measures will help ensure the City's economic viability in the decades to come while preserving its environment. This document lays out a roadmap for San Jose to expand its water conservation activities.

What follows is a narrative of San Jose's current supply situation, conservation activities and proposed future conservation activities.

1.4. Current Water Supply Picture

In 2005, San Jose's citywide annual water demand was approximately 143,300 acre feet. Recycled water deliveries met approximately 4,500 acre-feet (3.1%) of this total demand, and savings from conservation accounted for approximately 5,300 acre-feet (3.7% of total demand).

1.4.1. Sources of San Jose's water supply

Approximately 65% of water supplied in Santa Clara County is imported via the Hetch Hetchy system, the State water Project (Delta) and the Federal Central Valley Project. About 32% is pumped from local groundwater and approximately three percent is supplied by recycled water.

1.4.2. Recycled Water

Recycled water is a local water source developed and supplied by four of the County's wastewater treatment plants for uses such as irrigation, industrial processing, cooling towers, and dual plumbing use. The South Bay Water Recycling (SBWR) Program was developed to reduce the effluent flows into the wetlands of the South Bay from the Plant. The SBWR system distributes recycled water to over 500 customers per day in the cities of Milpitas, Santa Clara and San Jose and accounts for the largest portion of recycled water used within the County. For FY06-07, the annual volume of recycled water used that was supplied by the SBWR system was just over 10,000 acre-feet. This was a significant increase from the over 8,500 acre-feet used the previous twelve months. Currently, recycled water use is approximately 4.4% of the total water used in the County. The Water District has set recycled water targets of 5 percent of total County water use by 2010, and 10 percent of total County water use by 2020. That means that recycled water use within the County would more than double, increasing to 45 million gallons (138 acre-feet) per day.

1.4.3. Conservation

Water conservation activities for the City are implemented by the City's Water Efficiency Program (WEP) and the Water District. Since 1994, the City's Water Efficiency Program has (among other things) retrofit nearly 233,000 toilets in the Plant service area, financially supported 5,691 "Waterwise Housecalls" that identified water conservation opportunities for residents, 44,000 h-axis washing machine rebates, and 75 "Water Efficient Technologies" rebates for local businesses. These programs have reduced indoor water demand in the Plant Service Area by 8,258 acre feet (The Plant Service Area includes the cities of San Jose, Campbell, Santa Clara,

Milpitas, Los Gatos, Monte Sereno, and parts of Cupertino). The Water District estimates that water conservation programs implemented since 1992 have reduced demand by more than 39,000 acre-feet county-wide. Water conservation programs help meet short-term and long-term water reliability goals by reducing water demand and freeing up supply for growth and environmental purposes.

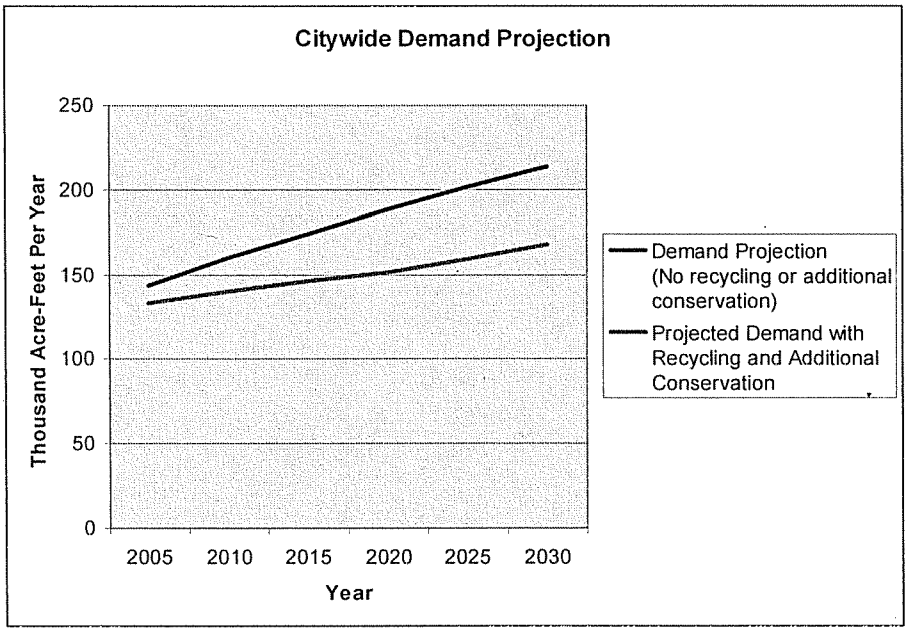
Additionally, significant work is occurring on a regional and statewide basis. As signatories to the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding, the Water District, City of San Jose, and the City's water retailers are obligated to implement several conservation programs (see attachment B for a list of Best Management Practices).

1.5. Projected Water Supply Picture

Future water demand is expected to increase given the projected increase in population, coupled with an improving economy bringing more jobs to the City. This future demand cannot be met without increasing water conservation efforts, expanding recycled water use, and investing in new water supplies.

1.6. Meeting Future Demand with Increased Water Use Efficiency

The chart below illustrates the projected increase in total citywide water demand from 2005 to 2030, compared to the citywide demand including recycled water and additional conservation.



Sources: Santa Clara Valley Water District, San Jose Water Company

1.6.1. Conservation

As stated above, San Jose's conservation goal is to conserve an additional 30,000 acre feet of water by 2030. This will be accomplished with, among other things, water conservation outreach, a combination of indoor and outdoor water conservation strategies and technologies such as fixture rebates, and landscape, commercial and residential water audits.

1.6.2. Recycled Water

Recycled water use will continue to grow county-wide with San Jose forecasting that it will use 16,500 acre-feet (5380 million gallons) of recycled water annually by 2030. Recycled water is currently used for irrigation, industrial uses, cooling towers, and dual plumbing, and additional potential uses of recycled water include groundwater recharge and stream flow augmentation.

1.6.3. Desalination

The Water District, Contra Costa Water District, the East Bay Municipal Utilities District, and the San Francisco Public Utilities Commission are collaborating to evaluate the feasibility of a regional desalination facility for the Bay Area. The four agencies have the ability to share water through the various pipeline "interties" between the agency conveyance systems. They will be constructing a pilot desalination plant to help determine the viability of generating potable water from brackish water, with the goal to eventually supply up to 65 million gallons or 199 acre-feet per day of water for use by any of the 4 agencies.

2. Benefits of Conservation

2.1. Cost effectiveness/ Benefit Cost analysis

A good water use efficiency program provides a level of benefits that exceeds the costs required to undertake the program. Water conservation programs provide a myriad of benefits -- from the water utility that provides them to the private citizen or business that partakes of them -- to the environment that competes for the conserved water. Considerable research has been done into how to quantify these benefits. The **Status Report and Assessment of the Revised South Bay Action Plan Programs (2001)** included a benefit cost analysis of its various flow reduction programs such as streamflow augmentation, conservation, and recycled water. Water conservation

programs had a favorable benefit cost ratio of 8.63 compared to recycled water at 2.7 and streamflow augmentation at 1.47.

2.2. Conservation Benefits

2.2.1. Benefits to Utilities

- Increases water supply reliability
- Reduced need to secure additional water supplies
- Reduced operations and maintenance costs
- Deferred, downsized or eliminated need for new facilities
- Image enhancement as responsible environmental steward
- Less competition among utilities for water supplies[1]
- Additional supply available for growth and environmental needs
- Wastewater treatment plant benefits identical to those for supply infrastructure; the Plant estimates a cost of $890/mgd of wastewater treated
- Helps meet short-term demands associated with dry periods and long-term demands.

2.2.2. Benefits to Customers

- Lower water, sewer and energy bills
- Reduced landscape and property maintenance costs and services.

2.2.3. Environmental benefits and energy savings

- Water freed up for environmental uses such as maintaining streamflows for aquatic species such as the Delta Smelt
- Significant energy savings due to water being California's single biggest energy user
- Reduced greenhouse gas emissions. The Water District estimates that, between the District's baseline conservation year of FY 92-93 and FY 05-06, the 370,000 acre feet of conserved and recycled water use achieved countywide also conserved 1.44 billion kilowatt-hours and avoided the emission of 344 million kilograms of carbon dioxide.
- Less risk of overdrafting groundwater
- Preservation of the habitats of the South Bay and Delta.

[1] It should be noted that conservation decreases revenues to water retailers and wholesalers. For privately owned utilities, this issue can be addressed by the California Public Utilities Commission much as it has done with the energy utilities.

3. City Water Conservation Programs/Plans

3.1.History of Conservation Programs

Prior to the mid-1990s, San Jose conducted indoor and outdoor water conservation programs, primarily in response to the drought of 1987 – 1992 and flow reduction requirements in the wastewater discharge permit for the Plant. Conservation measures included rebates for Ultra Low Flush Toilets and front-loading "h-axis" washing machines and showerhead replacement.

Since the mid 1990's the City's water conservation efforts have focused solely on Plant flow reduction requirements in accordance with the Revised South Bay Action Plan (1997 – 2002). Thus, conservation efforts have focused on indoor strategies such as toilet retrofits, washing machine rebates, waterwise housecalls, and other residential and commercial conservation programs. With current effluent flows around 100 mgd (below the Plant's 115 mgd "trigger" to begin analysis of potential additional programs), programs in recent years have been curtailed accordingly, freeing up funds for Plant infrastructure needs.

3.2 Current Programs

Since 2002, the City's primary flow reduction strategy has been its ongoing cost sharing agreement with the Water District in which the two agencies financially support each other's water conservation programs. Environmental Services staff administers the Water Efficient Technologies (WET) Rebate Program to the business community for indoor projects within the Plant Service Area. The Water District implements the remainder of the conservation programs (residential, commercial, indoor and outdoor). The City conducts one outdoor conservation program for low-income residents who have been "noticed" under the City's Neighborhood Preservation Ordinance by offering them financial assistance to upgrade their properties in water conserving ways. The Water District pays for the program and City Code Enforcement administers it.

Environmental Services staff reviews development plans that come through the City's Planning Department for water conservation opportunities. However, identified conservation opportunities, such as xeriscaping or indoor design modifications are not mandatory.

Today, conservation activities are guided primarily by ongoing flow reduction requirements of the Plant NPDES permit, the Demand Management Measures of retailer and Water District Urban Water Management Plans (UWMP), and the Best

Management Practices of the California Urban Water Council (CUWCC). Both Great Oaks Water Company and San Jose Water Company have recently become signatories to the CUWCC's conservation MOU. San Jose Water Company's UWMP notes that their conservation measures mirror the BMPs, some of which (water audits and outreach) they implement themselves, the rest of which are implemented by the Water District. Great Oaks Water Company does not currently conduct any conservation programs.

3.3 Water Shortage Contingency Plan

Chapter 15 of San Jose's Municipal Code includes short-term conservation measures to be implemented in light of water shortages (between 10 to 40%) as declared by the City Council or Water District. Measures include, but are not limited to, landscape irrigation restrictions, public noticing and outreach, and restrictions on filling of pools, spas and fountains. These measures are in addition to ongoing water conservation programs and water waste prevention ordinances.

4. Challenges

The rainfall season ending June 30, 2007 was the driest year on record for several cities in southern and central California. The hardest hit city, Palmdale, received only 9% of average total annual rainfall and even the wettest city, Eureka, was drier than normal at 93% of average. While San Jose received 63% of average precipitation, Los Angeles only received 23%. The dry conditions this year will be part of the challenge to maintain a sustainable water supply for the City. This challenge is compounded by several factors that affect the water supply situation: global warming, Delta pumping restrictions, potential catastrophes, and the possibility of multi-year drought events.

Global Warming

There is growing acknowledgement of the potential risks that Climate Change presents to California's water supply. Projections by the Intergovernmental Panel on Climate Change indicate that regional climate change associated with global warming could significantly alter California's hydrologic cycles and water supply.[2] Precipitation is expected to increase as snowfall decreases over the Sierra Nevada and Cascades mountain ranges. The shift in the nature and timing of precipitation and snowmelt in California will affect the state's procurement of water. The San Francisco Public Utilities Commission projects that as temperatures increase, snow level will rise in elevation as well, from 6000 feet in 2000 to 7500 feet by 2075. Between now and

[2] Landers, Jay. *Climate Change to alter California's Water Supplies, Study Says* (August 2002) Civil Engineering 72, no. 8. 16-17.

2050, snowpack is predicted to decrease from 87% to 76% of normal. Precipitation runoff will occur earlier in the spring with an earlier "end to spill" from the Hetch-Hetchy reservoir.

Salinity levels in the San Francisco Bay estuary and the Bay Delta may increase, affecting water quality and the existing flora and fauna which inhabit these environments.[3] Reduced spring snowmelt will also decrease hydropower generation.[4] These issues could have implications for California's approach to its water storage needs.[5]

Another possible effect of global warming is increased temperatures, which may lead to increased landscape water demands.

Delta pumping issues and threats to water supply

The San Francisco Bay-Delta is a sensitive environment, and the amount of water that can be pumped from the Delta is heavily influenced by hydrological, environmental and legal factors and competition. The District strives to maintain "reserve" supplies. However, in the event of a long-term decrease in imported water availability and the prolonged use of these reserve supplies, the amount of water available to supply the County may drastically decrease.

Catastrophes

Catastrophic events such as earthquakes, levee failures, or infrastructure failures could immediately cut off all supplies from the Delta as well. Depending on the magnitude of such an event, halted deliveries from the Delta could realistically create devastating results to the state's economy and water supply.

Possible multi-year drought events

The County is vulnerable to droughts of long duration. While a single dry year, such as that observed in 1977, may create temporary difficulties in managing a severe cutback in imported and local surface water supply, the Water District maintains stored reserves that could supplement a temporary decrease in supply. A return to a normal or wet year after a single dry year would replenish those reserves. In multiple

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[3] Knowles, Noah, and Cayan, Dan. Potential Affects of Global Warming on the Sacramento/San Joaquin Watershed and the San Francisco Estuary. (No date) Climate Research Division, Scripps Institution of Oceanography; Water Resources Division, U.S. Geological Survey. [Available online]: <http://64.233.179.104/scholar?hl=en&lr=&q=cache:rmdV9df8KJ4J:tenaya.ucsd.edu/~knowles/papers/knowles_GRL1.pdf+global+warming+effects+on+california+water+supply>.

[4] Kim, Jinwom, et al. *Impacts of Increased Atmospheric CO2 on the Hydroclimate of the Western United States* (July 2002) Journal of Climate 15, no. 14. 1926-1942.

[5] Landers, Jay. *Climate Change to alter California's Water Supplies, Study Says* (August 2002) Civil Engineering 72, no. 8. 16-17.

dry years, such as those observed from 1987-1992, water storage reserves are continuously diminished with each successive dry year.

Due to the difficulty in predicting the length of a drought, it is challenging to plan for and manage a multi-year drought. The management of reserve supplies is different in a single-dry versus multi-dry year. For example, in a single dry year, reserves could possibly be used without the need for mandatory rationing and water use restrictions, as the reserves would be replenished within the next few years. However, in a multi-dry year, it would be more beneficial to call for conservation and use restrictions as soon as possible in order to conserve the supply reserves that would need to last for several years. In managing available water sources during an observed dry year, there may be long-term benefits in addressing the shortage as though it is the first of several dry years. Given the ongoing uncertainty of Delta water supplies as well as the recently observed dry year, mandatory water rationing might be implemented in the future.

5. Planned Conservation Programs/Policies

Since 2002, the Water District has taken primarily responsibility for program implementation, achieving economies of scale associated with countywide and regional programs. With a potential drought underway, the 10% voluntary reduction called for this last summer, and a more complicated supply situation, it is time for San Jose to resume a more active role in conservation. The following program elements are proposed to expand our efforts between now and FY09-10.

5.1. Planning and Development

San Jose's General Plan includes the following statement in the Natural Resources Section: "The City should encourage more efficient use of water by promoting water conservation and the use of water saving devices." San Jose can achieve considerable water conservation by achieving the following tasks:

a. Developer Plans: Continue to review developer plans to recommend water conservation and other environmental improvements

b. Municipal Code: Review municipal code to identify potential areas in which it can be strengthened in terms of required water conservation (and other environmental requirements, such as energy conservation). Ensure compliance with existing water conservation regulations such as AB 325 (landscape ordinance).

c. Pilot Programs for Water Conserving Fixtures: In collaboration with the Water District, conduct a pilot program to offer incentives that encourage developers to build homes with water conserving fixtures, irrigation systems and landscapes. Such new developments can have tremendous water conserving potential and a pilot program is currently being designed at the State level. The Metropolitan Water District began its "California Friendly Homes" program in 2001 and estimates savings at 50,000 gallons per year per single family home.

d. Pilot Programs for New Technologies: Conduct pilots on creative and innovative water conserving and reuse technologies. These technologies can be coupled with other Green Building designs.

e. Feasibility of Retrofit on Resale: Research the feasibility and efficacy of establishing a "retrofit on resale" code requiring the installation of water conserving fixtures when properties change hands (both residential and commercial). Santa Cruz has enacted such an ordinance and estimates 28 million gallons in cumulative savings since 2003.

f. Design Guidelines: Revise San Jose's Residential, Commercial and Industrial Design Guidelines to more fully address water conservation elements such as landscape requirements. Enforce compliance with the guidelines. Such a review would be an opportunity to review the guidelines for other potential environmental elements as well.

g. Specific Plans: work to ensure that water conservation (and other environmental considerations) is fully incorporated into future Specific Plans

h. Water supply assessments: review water supply assessments associated with developments over 499 units to ensure that they are as water-conserving as possible. Train Planning staff to ensure that they are conversant in water conservation requirements and guidelines for development.

5.2. Outreach and Education

The results of the District's 2004 Residential Water Use Baseline Survey suggest that households that are more knowledgeable about water use also may be more proactive about conserving. While the District implements an annual "Water for Summer" campaign, outreach efforts will need to be expanded to achieve the 30,000 acre feet goal. The City's current annual outreach budget for indoor conservation messages is $150,000. The City will perform the following outreach:

a. Outreach Campaigns: Conduct conservation campaigns, either alone or in conjunction with the Water District, retailers, San Francisco Public Utilities Commission, and/or BAWSCA. An example is the regional "Be a Water Saving Hero" campaign currently underway. When appropriate, collaborate to ensure complimentary messages are delivered, such as conservation and pollution prevention messages. Provide customers with usage info so they can compare their water usage to previous years and/or track current usage. Partner with other agencies and organizations to host/co-sponsor speaker events/workshops, produce joint messages or press releases and/or to fund a joint campaign.

b. Messages: Tie conservation messages to saving money, an incentive for residents and businesses. Promote WaterWise Housecalls and Commercial Water Audits as gateways to other conservation programs as, currently, awareness of these programs is low. Promote conservation behaviors such as watering at night, sweeping as opposed to hosing off hardscapes, and fixing leaks promptly. Promote incentives for water conserving retrofits such as toilets, showerheads and commercial technologies such as pre-rinse sprayers for food service establishments. Promote the efficacy of High Efficiency Toilets. Create and disseminate general messages about the City's and State's water situation and the potential effects of climate change on water supply.

c. Outreach Strategies: Increase outreach through such strategies as media advertising (television, radio and newspapers), bill inserts, bus advertising, educational programs, and public relations mechanisms. Increase support for local water conservation programs for schools. Increase outreach to City employees, through brown bag events, tabling at citywide info fairs, and/or existing newsletters.

5.3. Program Planning and Management

With reduced staffing levels in the Water Efficiency Program, it is recommended that, for the next two years, the Water District maintain its role in implementing the majority of local conservation programs. The City can increase its support of District programs by increasing the amount of money it puts towards cost sharing as well as by implementing additional outreach as outlined above. Cost Sharing – offering financial support for other agency conservation programs - has proven to be a cost-effective way for the City to fund water conservation. The City and Water District have had a cost sharing agreement in place since 1998. In recent years, the cost sharing agreement has reduced the required number of City FTEs devoted to conservation and allowed us to capitalize upon large-scale program efficiencies at the County and state levels. Water conservation is now a responsibility of the Water Utility Core Service. Over the next three years, staff will clarify program needs to

achieve the 30,000 acre feet of conservation and make investment proposals which may bring some direct program implementation back to San Jose.

5.4. Cost-Sharing with Water District Programs

It is recommended that the City continue to cost-share with the Water District on the following programs.

5.4.1. Residential

1) Continue to support (financially and with outreach) "Waterwise Housecalls" and utilize them as a gateway to other conservation opportunities
2) High Efficiency Toilet (HET) rebates
3) Plumbing retrofits such as aerators and showerheads
4) H-axis washing machine rebates
5) Landscape and irrigation incentives for waterwise landscaping, hardware, and evapo-transpiration (ET) controllers
6) Neighborhood Preservation Water Conservation Program.

5.4.2. Commercial, Industrial and Institutional

1) Commercial water conservation audits that identify conservation opportunities
2) Cooling Tower Connectivity Controller rebates
3) Continue the WET rebate for both indoor and outdoor retrofits
4) High Efficiency Toilet replacements
5) Commercial washing machine rebates
6) Commercial landscape programs such as landscape audits, and financial assistance for hardware upgrades.

5.5. Update of City's Water Shortage Contingency Plan

City staff will need to evaluate and update the current Water Shortage Contingency Plan. City staff will also need to clarify enforcement responsibilities and coordinate with other water agencies on the evaluation and update of their Water Shortage Contingency Plans.

5.6. Conservation Pricing

The CUWCC recently revised BMP 11 for conservation rate structures to ensure that all signatories implement a conservation pricing structure. To date, the Municipal Water System has such a rate structure; the two remaining San Jose retailers do not (San Jose Water Company is in favor of such a rate structure, and has applied with the CPUC to adopt tiered rates). The City and the CUWCC should work with the

retailers to ensure that this is implemented, as allowed by the California Public Utilities Commission.

5.7. Partnerships

With the exception of the plumbing fixture distribution and "waterwise housecalls" conducted by San Jose Water Company, the City and Water District have been responsible for implementing conservation programs in all water retailer service areas throughout San Jose. The City intends to work more closely with the retailers to identify how they can more directly support conservation efforts, especially in light of their new memberships in the CUWCC.

6. Three-Year Implementation Plan

6.1. FY 07-08

1) Administer Cost Sharing Agreement with Water District for FY 0708
2) Secure Cost Sharing Agreement with Water District for FY 0809
3) Process Water Efficient Technologies rebates
4) Identify additional outreach the City should undertake and work with ESD's marketing Communications section and the Water District to implement
5) Work with the Water District and its water conservation subcommittee to develop a pilot model development program
6) Begin to determine the feasibility and efficacy of a "Retrofit upon Resale" ordinance
7) Begin efforts with the Water District to quantify how much savings potential exists with each conservation strategy and technology
8) Determine investment proposals for FY 0809 including potential funding opportunities for outdoor water conservation
9) Work to "green" the Envision San Jose 2040 General Plan update, including incorporating opportunities for water conservation; continue to do plan checks; and review water supply assessments for large developments (in support of SB 610 requirements).
10) Continue to administer the Neighborhood Preservation Water Conservation Program

6.2. FY 08-09

1) Continue outreach
2) Administer the FY 0809 Cost Sharing Agreement wit the Water District
3) Negotiate and finalize the FY 0910 Cost Sharing Agreement
4) Revise San Jose's Residential Building Guidelines to incorporate environmental improvements (including water conservation).

5) Promote and process Water Efficient Technologies Rebates
6) With Office of Sustainability and Planning staff, review municipal code to identify potential ways to strengthen it from an environmental standpoint (including water conservation). Begin to determine the feasibility and efficacy of a "Model water efficient landscape" ordinance
7) Conduct a water conservation study session with San Jose's Planning Commission.
8) In conjunction with the Water District and its water conservation subcommittee, initiate a pilot model development program to determine feasibility, costs, benefits, and receptivity of the development community.
9) Depending upon the results of research on a "retrofit upon resale" ordinance, work to implement such an ordinance.
10) Work to establish savings estimates for various water conservation strategies that do not have them currently and establish conservation goals through FY 1011.
11) Complete BMP reporting to the CUWCC for the Municipal Water System.
12) Begin to more fully map out savings potential, and program strategies for achieving 30,000 acre feet of water conservation
13) Continue to administer the Neighborhood Preservation Water Conservation Program.

6.3. FY 09-10

1) Continue outreach
2) Administer the 0910 Cost Sharing Agreement wit the Water District
3) Negotiate and finalize the 1011 Cost Sharing Agreement
4) Revise San Jose's Commercial and Industrial Building Guidelines to incorporate environmental improvements (including water conservation)
5) Promote and process Water Efficient Technologies Rebates
6) With Office of Sustainability and Planning staff, propose municipal code changes that increase water conservation for Council adoption
7) Evaluate the pilot model development program for possible expansion
8) Work with Code Enforcement to ensure compliance with Retrofit Upon Resale Ordinance. Work with Real Estate community to ensure its success
9) Continue to more fully map out savings potential, and program strategies for achieving 30,000 acre feet of water conservation
10) Continue to administer the Neighborhood Preservation Water Conservation Program.

6.4. Staffing

In 1999, the City employed 7 full time staff and several interns to implement flow reduction programs. Since that time, staff levels have been reduced to a maximum two FTEs. Currently, staffing is approximately 1.5 FTEs. With expanded conservation efforts, City staff will evaluate whether an increase in staffing resources will be needed.

6.5. Budget & Grants

The current budget for the WEP is $1.5 million funded from Sewer Service and Use Charges and $150,000 in outreach funds. In order to fund outdoor conservation, where the majority of future savings will be achieved, non-513 funding would need to be appropriated. The City supports the Water District's efforts to secure grant money for countywide conservation programs. In the future, the City will evaluate the benefits of securing its own grant funds for outdoor conservation programs.

6.6. Prioritization of programs

In light of limited resources, the City will need to develop or use externally-developed criteria to evaluate which programs or efforts should be prioritized. This evaluation would assist in the development of goals and plans for future efforts past FY 09-10.

7. Process to Develop Performance Measures

7.1. Short Term and Longer Term Goals
The Final Conservation Plan will establish short term goals – i.e. through FY 2010 and longer term goals.

7.2. Performance Measures
The Final Conservation Plan will establish measures for cost effectiveness (cost per unit of water conserved), cumulative water savings, and metrics to determine the effectiveness of outreach.

7.3. Savings Estimates
Where possible, the Final Conservation Plan will establish and compare savings estimates for various conservation technologies and strategies.

Attachment B

List of Best Management Practices of the California Urban Water Conservation Council (CUWCC)

The City of San Jose, as a signatory to the CUWCC Memorandum of Understanding (MOU), has committed to the implementation of various Best Management Practices (BMPs), listed below. "Implementation" means achieving and maintaining the staffing, funding, and in general, the priority levels necessary to achieve the level of activity called for in each BMP's definition, and to satisfy the commitment to use good faith efforts to optimize water savings as described the MOU.

1. Water survey programs for single-family residential and multi-family residential customers

2. Residential plumbing retrofit

3. System water audits, leak detection and repair

4. Metering with commodity rates for all new connections and retrofit of existing connections

5. Large landscape conservation programs and incentives

6. High-efficiency clothes washing machine financial incentive programs

7. Public information programs

8. School education programs

9. Conservation programs for commercial, industrial, and institutional (CII) accounts

10. Wholesale agency assistance programs

11. Conservation pricing

12. Conservation coordinator

13. Water waste prohibition

14. Residential ULFT replacement programs

ATTACHMENT 2

TMDL, SSO, and RMP Participation Letters

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Bay Area Clean Water Agencies

Leading the Way to Protect Our Bay

A Joint Powers Public Agency

P.O. Box 24055, MS 702

Oakland, California 94623

January 23, 2008

VIA EMAIL

Mr. Bruce Wolfe, Executive Officer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Submittal of Annual Reports by BACWA Members on Participation in the RMP, TMDLs, and SSOs

Dear Mr. Wolfe:

As you know, many of the municipal wastewater NPDES permits require participation in the development of Total Maximum Daily Loads (TMDLs) and Site-Specific Objectives (SSOs), and collection of ambient water quality data. The purpose of this letter is to describe how Bay Area Clean Water Agencies (BACWA) members participate in each of these programs.

Total Maximum Daily Loads (TMDLs)

For TMDLs, BACWA member agencies make financial contributions for water quality attainment strategies, including development and support for constituent studies on mercury PCBs, copper, nickel, selenium, diazinon toxicity, dioxin/furans, legacy pesticides, cyanide, and multi-pollutant projects and special studies. Some of these activities are documented for 2007 in the report titled *Clean Estuary Partnership FY 06-07 Annual Report*, issued in October 2007 and hereby incorporated by reference. Additional activities were completed in the second half of 2007 through BACWA-only initiated programs. Significant progress has been made on water quality attainment strategies during 2007, as further described below.

Site-Specific Objectives (SSOs)

BACWA member agencies also make financial contributions for the development of copper and cyanide SSOs. In particular, the copper SSO was adopted by the Regional Water Quality Control Board on June 13, 2007, and approved by the State Water Resources Control Board on January 15, 2008. In addition, the cyanide SSO was adopted by the Regional Water Quality Control Board on December 13, 2006, and approved by the State Water Resources Control Board on December 4, 2007. We understand that the next steps for these SSOs include approval by the California Office of Administrative Law (OAL) and the U.S. Environmental Protection Agency.

Regional Monitoring Program (RMP)

BACWA members also directly support ambient receiving water monitoring through annual financial contributions to the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP). Through the financial contributions of BACWA members, the RMP conducts regional monitoring to assess the cumulative impact of multiple discharges to the Bay. The RMP conducts annual monitoring of water, sediment, and bivalves throughout the Bay, starting at the confluence of the San Joaquin and Sacramento Rivers near Benicia and ending in the South Bay near San Jose. There are approximately 31 water sampling stations, 47 sediment sampling stations, and 11 bivalve sampling stations. Monitoring of sport fish in the Bay occurs every three years. Samples collected are subject to a wide variety of tests including organics analyses (e.g., PCBs, PAHs, PBDEs, and pesticides), metal analyses (e.g., cadmium, lead, mercury and methyl mercury), and toxicity tests.

All of the RMP data undergo rigorous quality assurance and quality control before being made public through the RMP web site, RMP documents, and the RMP Annual Meeting. In addition, all of the 2005-2006 RMP data are reported in the 2007 Annual Monitoring Report, which is available from the RMP web site at www.sfei.org. The 2007 data are expected to be reported in 2008.

BACWA members own and operate publicly-owned treatment works (POTWs) that discharge to San Francisco Bay and its tributaries. Collectively, BACWA members serve over 6.5 million people in the nine-county Bay Area, treating all domestic, commercial and a significant amount of industrial wastewater. BACWA was formed to develop a region-wide understanding of the watershed protection and enhancement needs through reliance on sound technical, scientific, environmental and economic information and to ensure that this understanding leads to long-term stewardship of the San Francisco Bay Estuary. BACWA member agencies are public agencies, governed by elected officials and managed by professionals who are dedicated to protecting our water environment and the public health.

Please let me know if there is any other information you need regarding this particular requirement in the permits.

Respectfully submitted,

Michele Pla
BACWA Executive Director

cc: BACWA Executive Board
Robert Cole, BACWA Permits Committee Chair
Rod Miller, BACWA Laboratory Committee Chair

San Francisco Estuary Institute

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January 23, 2008

Michele Pla
Executive Director
Bay Area Clean Water Agencies
Oakland, California

Dear Ms. Pla;

The 34 wastewater treatment facilities (see attached table for a complete list) made a financial contribution to the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP) in 2007. We greatly appreciate their support of the program. Through their financial contributions, the RMP is able to conduct regional monitoring to assess the cumulative impact of multiple discharges to the Bay.

The RMP conducts annual monitoring of water and sediment throughout the Bay, starting at the confluence of the San Joaquin and Sacramento Rivers near Benicia and ending in the South Bay near San Jose. There are approximately 22 water sampling stations and 47 sediment sampling stations. Monitoring of biota including small fish, sportfish, bird eggs and bivalve in the Bay occurs on a biennial or triennial frequency depending on matrix. Samples collected are subject to a wide variety of tests including organics analyses (e.g., PCBs, PAHs, PBDEs, and pesticides), metal analyses (e.g., cadmium, lead, mercury and methyl mercury), and toxicity tests.

All of the data undergo rigorous quality assurance and quality control before being made public through the RMP web site (www.sfei.org/RMP/report), RMP documents (www.sfei.org/rmp/rmp_docs.html), and the RMP Annual Meeting (www.sfei.org). All RMP participants receive a copy of the 2007 Pulse of the Estuary summarizing key RMP findings. In addition, all of the 2006 RMP data is reported in the 2007 Annual Monitoring Report, which is available from our web site (www.sfei.org). The 2007 data will be reported in 2008. Again, we thank you for your valuable contribution to the Program.

Regards,

Margaret Sedlak
Senior Program Manager for the RMP
San Francisco Estuary Institute
7770 Pardee Lane
Oakland CA

Table 1
Wastewater Treatment Facilities Contributing to the RMP in 2007

Benicia
Burlingame
Calistoga
Contra Costa County Sanitation District
Central Marin
Delta Diablo
EBDA
EBMUD
Fairfield-Suisun
Las Gallinas
Millbrae
Mountain View
Napa
Novato
Palo Alto
Petaluma
Pinole/Hercules
Rodeo
San Francisco Airport
San Francisco C&C SE
San Jose/Santa Clara
San Mateo
Sausalito
Sewer Agency So. Marin
South SF/San Bruno
Sonoma
South Bayside
Sunnyvale
St. Helena
Tiburon (SD#5)
Union Sanitary District
Vallejo SFC
West County
Yountville